# Defendant's Exhibit 41

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## HIGHLY CONFIDENTIAL—ATTORNEYS EYES ONLY

March 7, 2022

## VIA JAMS ACCESS

Special Master Daniel B. Garrie DGarrie@jamsadr.com

Re: In re Facebook Consumer Privacy User Profile Litigation, JAMS Ref No. 1200058674

Dear Special Master Garrie,

Pursuant to the Hearing Order Regarding Plaintiffs' Motion To Compel Production of Plaintiff Data dated February 21, 2022, we submit this response on behalf of Facebook. We also thank the Special Master for granting an extension of our time to respond to allow us to provide responses that we believe would assist the Special Master in expediting resolution of the issue set forth by Judge Corley in her January 12, 2022 order: "[W]hat, if any, data from [systems other than DYI] should be produced consistent with Federal Rule of Civil Procedure 26(b)."

## I. USER DATA IN DYI

The Special Master's first two questions seek information about what user data is included in DYI. We welcome the opportunity to address that issue to correct and clarify statements made throughout these proceedings which seem to have created the impression that the DYI system is limited to the first category of "discoverable user data" identified by Judge Corley in Discovery Order No. 9. As explained below, the DYI system includes *all three categories* of data: (1) data collected from a user's on-platform activity, (2) data obtained from third parties regarding a user's off-platform activities, and (3) data inferred from a user's on or off-platform activity. So the issue is whether Facebook should produce *more data* in categories (1), (2), and (3) from systems other than DYI, which we understand is the focus of the Special Master's remaining questions.

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**Question #1**. Engineer documentation for the process of generating the DYI file for a Facebook user, including data flow diagrams that explain how the data is retrieved, data schemas, and the individual fields for each data type in the schema.

The following DYI engineer documentation is attached as **Exhibit A**.

- Your Information Schema (DYI). This schema describes each of the categories and types of data included in DYI.
- Eng Guide: Adding to DYI Wiki. This document provides step-by-step instructions for engineers from product teams to add data to DYI, including instructions regarding where data should live in the DYI taxonomy and DYI schema fields.

**Question #2**. A statement clarifying whether information available via the DYI tool "includes user data provided by third parties to Facebook, e.g., data relating to users' off platform activity."

Yes, DYI includes user data provided by third parties to Facebook, which is the second category of "discoverable user data" identified by Judge Corley in Discovery Order No. 9. Since this data is stored as raw logs of event data in Facebook's data warehouse, Facebook had to build data pipelines from the data warehouse to production to (a) aggregate and group this event level data on a per user basis sorted in chronological order and (b) transform raw logs of event data in the data warehouse into a human readable information. This effort required complex and time-extensive engineering efforts.

This question from the Special Master highlights a broader factual issue, which we believe should be clarified to assist the Special Master in resolving the issue before him. In Discovery Order No. 9, Judge Corley identified the following categories of "discoverable user data": (1) data collected from a user's on-platform activity, (2) data obtained from third parties regarding a user's off-platform activities, and (3) data inferred from a user's on or off-platform activity. Plaintiffs repeatedly have asserted that DYI contains *only* data in category (1), citing a statement by Facebook's counsel during a status conference before Judge Corley. In fact, the full exchange with Judge Corley makes clear that Facebook's counsel was explaining that the DYI tool does not contain *all* data in categories (1), (2) and (3), which is further demonstrated by the answer to this question confirming that DYI includes

(Cont'd on next page)

<sup>&</sup>lt;sup>1</sup> Pls' Sept. 28, 2020 Mot. Compel at 7, Dkt. 526; Pls' Oct. 18, 2021 Mot. Compel Production of Named Pls' Content And Information at 3.

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data in category (2). Plaintiffs also have cited documents produced by Facebook that they claim prove Facebook's production is limited to *only* data in category (1), most notably, a document referring to "Native Data," "Appended Data," and "Behavioral Data." Again, this is incorrect. **Exhibit B** attaches the primary document Plaintiffs cite for this assertion and a table that describes how the Native, Appended, and Behavioral Data described in that document is either included in DYI or relates to features that were deprecated before this case was filed.

For completeness, we explain below the data in categories (1), (2), and (3) that are included in DYI, and attach as **Exhibit C** summaries of the data that has been produced for each of the named plaintiffs.

Category (1): Data collected from on-platform activity. DYI includes data provided by users and data observed by Facebook on the platform.

*User-provided data* includes profile data, user-generated content (e.g., posts, videos, photos, comments, stories), message content, friends, location check-ins, linked accounts in the Facebook family of products, and language choices.

Observed data includes clicks, profiles, Pages, Groups, and Events a user has visited, usage data, device data, networks and connections, data about user's activity level, advertisers with which the user has interacted, pages (user pages, pages a user liked or recommended, pages a user follows, pages a user has unfollowed), IP address when sending a message, users that a user has chosen to "see less" or "see first" in News Feed, time spent watching from a page, people whose profile a user has visited, last location, last active time, whether a user viewed someone's birthday story, people a user blocked on Messenger, page notifications, pages a user recommended, time zone, email address verification, Marketplace notifications, and interactions.

Category (2): Data collected from off-platform activity. DYI includes information provided to Facebook by third-party advertisers, app developers, and publishers about user interactions.

User interactions are things like opening a third-party developer app that integrates Facebook business tools, and visiting websites that integrate the Facebook business tools providing information about the user viewing content, searching for items, adding an item to a shopping cart, or making a purchase. Third parties share this off-platform activity with Facebook using "business tools," which are technologies designed to help website owners

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<sup>&</sup>lt;sup>2</sup> Pls' Sept. 28, 2020 Mot. Compel at 8, Dkt. 526.

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and publishers, app developers, advertisers, and others, integrate with Facebook, understand and measure their products and services, and better reach and serve people who use or might be interested in their products and services. Business tools include Facebook Pixel, Facebook SDK, Conversions API, Offline Conversions, and the App Events API. Facebook also receives impression data through Facebook Social Plugins (e.g., Like and Share buttons) and Facebook Login.

Facebook also receives contact lists with user information uploaded by advertisers for the purpose of serving ads to those users through what are referred to as custom audiences. These lists include hashed information about users (e.g., email addresses, phone numbers) that is used to try to match people on the list with Facebook user accounts; matched users are placed in the custom audience. This hashed information is discarded after the matching process.

Category (3): Data inferred from a user's on or off-platform activity. DYI includes data that is derived from a user's on or off-platform activity.

DYI includes information regarding ads interests; music recommendations based on genres of music a user has interacted with on Facebook; "your topics," which is a collection of topics determined by a user's activity on Facebook that is used to create recommendations for users in different areas of Facebook such as News Feed, News, and Watch; primary location; primary public location; friend peer group; creator badges (including labels like "visual storyteller" or "conversation starter" based on activity in Groups); time zone; language preferences (including preferred language for videos, languages you may know, preferred language); and mobile service provider and country code.

**Plaintiffs' DYI Data**. Summaries of the DYI files for each named plaintiff showing that they include all three categories of "discoverable user data" identified in Discovery Order No. 9 are attached as **Exhibit C**.

## II. OTHER USER DATA AND SYSTEMS

The Special Master's remaining questions focus on understanding what other systems contain user data and, as Judge Corley stated the issue, "what, if any, additional data should be produced consistent with Federal Rule of Civil Procedure 26(b)." To be sure, the DYI file does not include all data related to users, but that does not mean that production of that data is consistent with Rule 26. For example, as explained above, DYI includes data received from third parties regarding a user's off-platform activity on apps and websites, such as viewing content and adding an item to a shopping cart, but does not include data identifying

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the specific content that was viewed or the item that was added to a cart for reasons that engineers will be prepared to explain at the hearing.

**Question #3:** A statement identifying systems that coordinate and schedule jobs that run against the Hive (a process that accesses table data in the Hive and aggregates user data to produce a meaningful data set). For each job that may involve user data, Facebook is to describe the data extracted in the job and where the job saves the data.

The majority of batch data processing of Hive data at Meta is handled by a system called Dataswarm, which is described below. The remaining minority of batch data processing is coordinated by FBLearner, which is a similar system derived from Dataswarm.

Dataswarm works by having employees (1) define atoms of computation called tasks and then having employees (2) explicitly state the dependency relationships between these tasks so that the system can initiate a task's computations after the preceding tasks have completed their execution. These tasks are treated as black boxes: the system knows nothing about what the task does beyond the rough type of computation performed. For any given task, Dataswarm does not know what data is used as inputs to the computations it orchestrates or what data is produced as outputs by these computations.

Facebook's current approach for identifying what data is consumed as inputs by a job and is generated as outputs by that job is a time-consuming manual process. Because Dataswarm performs millions of tasks each day, it is not possible to complete this manual process for all Dataswarm tasks. To respond to the Special Master's request, Facebook completed this manual process for a sample of 10 tasks run in Dataswarm on February 15, 2022. This sample is attached **Exhibit D**. Approximately five million Dataswarm tasks were run on February 15.

**Question #4**: A statement identifying the internal identifiers Facebook uses to track users across the Facebook platform, including a description of which Facebook systems use each identifier, how each system uses each identifier, and how Facebook maps identifiers to users.

Facebook primarily uses four types of internal identifiers for user data: (1) a user identifier (UserID), (2) Replacement ID, (3) Separable ID, and (4) App Scoped Identifiers. Each is described in more detail below.

**UserID**. Facebook uses an industry-wide technique called pseudonymization to represent users on the Facebook platform. In essence Facebook creates a canonical unique

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identifier that encapsulates information about the user (such as First Name, Last Name, email, phone numbers, etc). The encapsulation can be accessed by an identifier called a user identifier (or UserID); this is similar to a row being stored in a database table with the primary key being the userid and information of the user being values in the other columns. UserIDs are unique in Facebook's systems, such that two users cannot have the same UserID, and they are not recycled, meaning even after a user deletes their account, no other user can have the same UserID. The User ID is the canonical identifier to represent a Facebook user and is used in nearly all Facebook systems.

**Replacement ID (RID)**. The RID is an identifier that supports Facebook's deletion practices by irreversibly disassociating data from a user. Every user is assigned an RID for the lifetime of their account. In data systems that do not support deletion (e.g. Hive), any user data retained for more than 90 days can only be retained with an RID. When a user deletes her account, Facebook deletes the record connecting the UserID to the RID so that data stored with that RID can no longer be connected to that user. Like the UserID, the RID represents a single user. Two users cannot have the same RID, and RIDs are not recycled. RIDs are used in Hive.

Separable ID (SID). The SID is similar to the RID, but allows Facebook to permanently disassociate Off Facebook Activity data from a user. Data Facebook receives from third parties about a user is associated with an SID (rather than UserID), and Facebook maintains a separate mapping between SIDs and UserIDs that can be accessed when data is processed. Through Facebook's Off Facebook Activity tool, users are able to clear their Off Facebook Activity. When a user does this, Facebook removes the mapping between the users' SID and UserID, which irreversibly dissociates the data stored with an SID from the user. Facebook then generates a new SID to be associated with the user's account moving forward. SIDs are used in Hive. More information about SID's is available at this link: <a href="https://engineering.fb.com/2019/08/20/data-infrastructure/off-facebook-activity/">https://engineering.fb.com/2019/08/20/data-infrastructure/off-facebook-activity/</a>

**App-Scoped ID (ASID)**. The ASID is an identifier that is sent to the third-party developer when a Facebook user has chosen to use the Facebook Login product to login to the services of the third-party developer. The App-Scoped ID also serves as a privacy protective identifier that Facebook created with the purpose of preventing different third-party apps from sharing data or amassing profiles of users across apps. This is why the App Scoped ID is created on a per-user per-app basis, such that different third-party developers do not receive the same identifier for the same Facebook user. ASIDs are stored in TAO.

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**Question #5**: A statement identifying the sources from which Graph API pulls user data, including a high-level description of each source and the engineers that own each source.

**TAO**. The Facebook production infrastructure is centralized around a distributed data store for the social graph, called TAO (The Associations and Objects), which is the primary source from which Graph API pulls data (including user data). TAO is a high-performance service for storing, caching, and querying the graph for nodes and associations, by providing a clean interface for internal and external developers to integrate into the social graph, abstracting away many of the complexities of developing and maintaining a data storage at scale.

- For more information about TAO: <a href="https://engineering.fb.com/2013/06/25/coredata/tao-the-power-of-the-graph/">https://engineering.fb.com/2013/06/25/coredata/tao-the-power-of-the-graph/</a>
- Technical Point of Contact: Redacted

TAO provides a layer of abstraction to describe objects and relations through EntSchema and Node. The underlying technology that is used to store these data models is a collection of technologies such as MySQL, Manifold, ZippyDB/Akkio, Memcache, and Laser. In limited cases, and for specific purposes, other systems may access these systems directly.

**MySQL:** MySQL is TAO's backbone. It provides transactional and availability properties to columnar data. For example, a user's comment can be stored in a MySQL database as a row in a table, where the comment id is the primary key and the comment is a text field. As another example, the fact that someone liked a comment can be represented by an association with the type like from the comment id and the user id, this could be represented as 3 columns in the table, with comment id, user id, and type of reaction.

# • Technical Point of Contact:

**Manifold**: Manifold is a managed horizontally scalable BLOB storage service accessible via Thrift, and HTTP, and client API libraries. It is feature rich and analogous to Amazon S3 in that it supports file and directory services for both large and small objects. It also supports cross region storage, deletion via TTL, strong QoS guarantees, and optional automated backups. It uses other storage subsystems—Everstore, ZippyDB, MySQL, Hive, and WarmStorage—for metadata and data storage, as well as standard internal infrastructure for deployment and management.

• Technical Points of Contact: Redacted

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**ZippyDB**/**Akkio**: ZippyDB is a persistent key-value storage service that provides reliable, scalable, geo-replicated storage for high throughput applications. ZippyDB provides very efficient key value lookups, faster than MySQL but are not transactional in nature. Akkio operates on top of storage services like Zippy. Akkio splits the data sets into units with strong locality, which can then be geographically placed close to where they are most likely to be accessed.

- For more information about ZippyDB/Akkio: <a href="https://engineering.fb.com/2021/08/06/core-data/zippydb/">https://engineering.fb.com/2021/08/06/core-data/zippydb/</a> (ZippyDB); <a href="https://engineering.fb.com/2018/10/08/core-data/akkio/">https://engineering.fb.com/2018/10/08/core-data/akkio/</a> (Akkio).
- Technical Points of Contact: Redacted (ZippyDB), Redacted (Akkio)

**Memcache:** Memcache provides a cache to the TAO service, the cache ensures that queries that have recently run are available quickly through the cache, as the response time of a cache are orders of magnitude quicker than a lookup in a MySQL database.

• Technical Point of Contact: Redacted

Laser: Laser is an indexing service that provides low-latency (typically a few milliseconds) read access to specific sets of Data Warehouse data. Data in the Data Warehouse is not indexed on a per user basis, but some Facebook products need to surface the calculations that the product performs to the production systems so a GraphAPI can request the data. Laser is only used to support first-party (i.e. Meta) products.

• Technical Point of Contact: Redacted

There are other technologies that keep TAO operational that ensure the service is performing at a high-performance.

**Question #6**: Any agreements relating to user data that Facebook has with each of the following entities: Netflix, Microsoft, and YouTube.

Facebook will submit via email to the Special Master and Plaintiffs contracts relating to user data with Netflix, Microsoft, and YouTube that have been produced in this case. Facebook will separately submit to the Special Master contracts with these entities that have not been produced to date in camera, to provide Facebook an opportunity to fully analyze

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and comply with any notice provisions in these agreements. Once Facebook has completed this analysis and complied with any notice provisions, Facebook will produce the contracts to Plaintiffs, consistent with Facebook's agreement to search for additional contracts Plaintiffs recently requested.

Facebook notes that Meta Platforms, Inc., Netflix, Microsoft, and YouTube are some of the largest technology companies in the world. These entities are parties to a very large number of agreements, the vast majority of which are confidential business agreements and outside the scope of this litigation. Should Facebook identify additional agreements with these entities that are responsive to the Special Master's request, Facebook will provide them.

## **Question #7**: Update list of 149 systems identified in the Declaration of David Pope.

In discussing the topics and questions to be addressed during the hearing on Wednesday, March 9, 2002, the engineers who will be attending the hearing have explained to counsel that the list of 149 systems and categorization discussed during the hearing with David Pope on January 14, 2002, are not an effective way of assisting the Special Master in understanding the user data that exists in Facebook systems. Instead, they approach this question from the perspective of a Facebook engineer building product experiences or conducting data analysis who think of user data in terms of production systems and the data warehouse. As these engineers will explain at the hearing, they look to TAO for production systems with narrow exceptions, and to Hive for the data warehouse.

Sincerely,

Rosemarie T. Ring

Rosingie Ring

# **EXHIBIT A**



Schema

Stuck Jobs

Switchboard

Ownership

# Your Facebook Information (YFI) Schema Filter Se

ies		Deselect All
	riends and followers off Pre	Logged information Ads sinformation

**Normal Mode** 

Developer Mode

riitei
Platform
Facebook
Instagram
Whatsapp
Product Type
ALL
○ AYI
<b>DYI</b>
In both AYI and DYI
Only
Only
Submit

S

Summary 68 296

Total Section S

Total Fields

Downloa...

tion Data Categories	Deselect All
Your activity across Personal Friends and Information followers  Security and login Information of Facebook  Personal Friends and Followers  Apps and websites off Presonal Friends and Followers  Apps and websites off Presonal Friends and Followers  Apps and Facebook Friends Apps and Facebook Friends Apps and Facebook Friends Apps Apps Apps Apps Apps Apps Apps Ap	Logged information Ads fere sinformation
tion Schemas	Collapse All
ır activity across Facebook	37
<b>đenu</b> đenu	
Content previews (Oncall: pacman)	
Content previews you have provided feedback on	
Bulletin nformation about your Bulletin account	
Your account creation date (Oncall: voices) The date you created your Bulletin account	DYI Only
Subscriptions (Oncall: bulletin_monetization) Pub ications you've subscribed to or have shown intent it on Bulletin.	n subscribing
Subscriptions and (Oncall: subscription intents bulletin_monetization Pub ications you've subscribed to or have shown intent is subscribing to on Bulletin.	´ DVI Only
Publication settings (Oncall: voices) Settings associated with your pub ication	
Articles (Oncall: voices) Articles you've published on Bulletin	
Pre-published articles (Oncall: voices) Pre-pub ished articles you've drafted on Bulletin	
Podcast settings (Oncall: voices) Settings associated with your podcast	
Podcasts (Oncall: voices)	
Podcasts you've set up on Bulletin	
Pre-published podcasts (Oncall: voices) Pre-pub ished podcasts you've set up on Bulletin	
Campus 'our campus activity and data.	
Campus Profile Information (Oncall: colleges) Information you've added to your Campus profile	
	DYI Only



Status

Generate

Schema

Stuck Jobs

Switchboard

Ownership

Location and preferences in Town Hall and the Voting Information

Location (Oncall: civic\_action)

The location used to provide you with local election and government information. This may be your primary location

Voting reminders (Oncall: civic\_action)

Your preferences for notifications from Facebook about voting and elections

#### Communities

Communities you manage, Communities you belong to and your posts and comments within them

Your Communities (Oncall: community\_presence)

Communities you belong to

Your Pending Posts in (Oncall:

Communities

community\_presence)

DYI Only

Your Posts in Communities (Oncall: community\_presence)

Posts you make in the communities you belong to

Your Comments in Communities (Oncall: community\_presence)

Comments you make in the communities you belong to

Your Community Connection

(Oncall:

Activity community\_presence)

Dates you became a part of the Communities you belong to

Your Answers to

(Oncall:

**Participation Questions** 

community\_presence

DYI Only

Information you've shared with community administrators

#### Events

Your responses to events and a list of the events you've created

Your Events (Oncall: events)

Events you've created

Your event responses (Oncall: events)

Your responses to Events you've been invited to

Event invitations (Oncall: events)

Events you've been invited to

Event Contact You've Blocked (Oncall: events)

People you've blocked from inviting you to events

DYI Only

Events (Oncall: events)

Events you've created for your Page

DYI Only

Events ratings you've submitted (Oncall: rpp\_event\_reviews)

Ratings you've submitted about events and classes

## **Dating**

Your separate Dating profile, preferences and messages for Dating

Your Dating profile (Oncall: profile\_dating\_backend)

Information and photos you've added to your Dating profile

Your Dating preferences (Oncall: profile\_dating\_backend)

Preferences you've expressed relating to age, gender and distance of potential matches

Messages (Oncall: profile\_dating\_backend)

Messages you've exchanged with other people in Dating

Communities (Oncall: profile\_dating\_backend)



Status

Generate

Schema

Stuck Jobs

Switchboard

Ownership

Groups and events where you requested to see suggested matches in Dating

Shared interests (Oncall: profile\_dating\_backend)

Mutual interests used to suggest new matches in Dating

Secret Crush (Oncall: profile\_dating\_backend)

Facebook friends who you've liked in Dating

Your Dating activity (Oncall: profile\_dating\_backend)

Activity associated with your Dating profile, such as number of people you've liked

#### **Facebook Gaming**

Your Facebook Gaming profile and games you've played

Gaming Profile (Oncall: gaming\_services)

Your Facebook Gaming profile information

Instant Games (Oncall: gaming\_play\_platform)

Games you've played

DYI Only

Chat Rules (Oncall: gaming\_video)

Chat Rules you've accepted

DYI Only

Games (Oncall: gaming\_services)

Games you've used Facebook Gaming to log into

#### **Facebook Marketplace**

Items you've sold, your commerce profile and seller information

Commerce

(Oncall:

leads

marketplace\_seller\_success)

DYI Only

Items sold (Oncall: commerce\_prod\_infra)

Items you've sold on Marketplace

Listings (Oncall: marketplace\_seller\_success)

DYI Only

Seller response (Oncall: commerce\_ratings\_and\_reviews)

Response you have given to a seller review

**Buyer and seller** 

(Oncall: commerce\_ratings\_and\_reviews)

DYI Only

Buyers and sellers you've rated on Marketplace

Your dealership business (Oncall:

marketplace\_seller\_success) information

Business information you provided on Marketplace to be associated with vehicle listings

Marketplace

Notifications commerce\_growth\_intel igence)

Information about notifications you've received from

DYI Only

Marketplace

Discussions (Oncall: commerce\_engagement)

Posts you've made on Marketplace discussions.

Seller information (Oncall: marketplace\_seller\_activation)

You provided the following information in order to sell on Marketplace.

#### **Fantasy Games**

Picks you've made in public Facebook Fantasy Games or private Facebook Fantasy Leagues

Picks (Oncall: fantasy\_games)

Picks you've made in pub ic Facebook Fantasy Games or private Facebook Fantasy Leagues



Status

Generate

Schema

Stuck Jobs

Switchboard

Ownership

rundraisers you've c	reated, Joined or donated to	
Fundraisers created	(Oncall: social_good_charitable_giving)	DYI Only
Fundraisers	(Oncall:	DVI Only

social\_good\_charitable\_giving) donated to **Fundraisers** (Oncall:

DYI Only joined social\_good\_charitable\_giving)

## Groups

Fundraisers

Groups you belong to, groups you manage and your posts and comments within the groups you belong to

Your Groups (Oncall: groups\_admins)

Groups you belong to

Your Group membership activity (Oncall: groups\_platform)

Dates you joined the groups you belong to

Creator Badges (Oncall: user\_signals\_engineering) DYI Only Badges you've earned

Prayer (Oncall: group\_faith) DYI Only

Your posts in Groups (Oncall: group\_posts)

Posts you make in the groups you belong to

Your group member profiles (Oncall: contextual\_profile\_web)

Information about customized profiles in Groups

Your Services (Oncall: independent\_work)

Services you can offer people in groups

Your group messages (Oncall: chats\_in\_groups\_fb) DYI Only

Your group membership (Oncall:

DYI Only activity groups\_experts\_www)

Your pending posts in groups (Oncall: group\_posts) DYI Only

Groups by this Page (Oncall: groups\_experts\_www) DYI Only

**Group Expert** (Oncall:

Application groups\_experts\_discovery\_www)

DYI Only Information about your expertise that group admins can

see

(Oncall: Your answers to membership

questions groups\_admins) DYI Only Information you've shared with private group

administrators

Your answers to participation (Oncall: groups\_admins) questions

Information you've shared with pub ic group administrators

DYI Only

Your group admin actions (Oncall: groups\_admins) Group admin actions that you've taken

DYI Only

Your group interests (Oncall: ceg\_product)

Group topics you said you're interested in

DYI Only

Awards you've given (Oncall: community\_reputation)

Awards you've given to comments from other members in groups you belong to



Status

Generate

Schema

Stuck Jobs

Switchboard

Ownership

Your Comments in

(Oncall:

Groups group\_comments)

DYI Only

Comments in groups you belong to

Your Greetings in Groups (Oncall: community\_comms)

Greetings in groups you belong to

Your group feedback from admins (Oncall: groups\_admins)

Feedback you've received from group admins

Your warnings (Oncall: community\_norms)

Warnings you've received

#### Jobs

Job opportunities you've interacted with and your job profile

Applied jobs (Oncall: job\_search)

A record of jobs you've applied to

Your Jobs preferences (Oncall: job\_search)

Your job location preferences

Jobs posted (Oncall: job\_search)

Jobs you've created on Facebook and the application information received from them

#### **Short Videos**

Your activity with short videos on Facebook

Videos (Oncall: fb\_shorts)

Short videos you've created and shared on Facebook

Saved audio (Oncall: fb\_camera\_backend)

Short videos audio you've saved

Saved effects (Oncall: fb\_shorts)

Effects from videos you've saved

Effect search history (Oncall: fb\_camera\_backend)

Effects you've searched for

#### Comments and reactions

Comments you've posted and posts and comments you've liked or

Comments (Oncall: comments\_infra)

Comments you've posted

Posts and comments (Oncall: facebook\_avatars\_backend)

Posts and comments you've iked or reacted to

Likes on external

(Oncall:

sites

open\_graph\_deprecation)

DYI Only

Likes and reactions made (Oncall:

by your page

facebook\_avatars\_backe

nd)

DYI Only

List of all posts and comments your page has liked or reacted to

## Live Audio Rooms

A ist of your activity as a host, speaker or listener for live audio room broadcasts

Live Audio Rooms (Oncall: live\_audio\_rooms\_www)

A ist of your activity as a host, speaker or istener for live DYI Only audio room broadcasts

#### Contacts

The people your child's connected to on Messenger Kids



Status

Generate

Schema

Stuck Jobs

Switchboard

Ownership

Sent Contact (Oncall:  Requests messenger_kids_www_  Requests you've sent to ask people to connect wi child on Messenger Kids	DYI Only
Requests messenger_kids_www_ Requests you've sent to ask people to connect wi	
on moodinger rade	
Received Contact (Oncall: Requests messenger_kids_ww Requests from others asking to be your child's co Messenger Kids	´ DVI Only
Declined Contact (Oncall: Requests messenger_kids_ww Contact requests for your child that you've decline	,
Profile Information our child's name, photo and other information you'd our Info section of your child's app	ve added to the
Your Child's Profile (Oncall: messenger_kids_vour child's name, photo and other information you added to the Your Info section of your child's app	
Messages Messages you've exchanged with other people on N	lessenger
Messenger Stories (Oncall: stories_backend)	DYI Only
Ratings (Oncall: rp_msngr_php_incall) A ist of the quality ratings you've applied to Messcalls	enger DYI Only
Your messages (Oncall: messaging_product_in Messages you've exchanged	nfra)
Previously Removed (Oncall: messenger_graph	oh) DYI Only
Messenger Contacts You've (Oncall: Blocked mwb_self_reme	diation) DYI Only
Secret conversations (Oncall: armadillo_act)	DYI Only
Secret conversations you've reported (Oncall: mwb_reporting_enfo _support)	rcement DYI Only
A . CH . C	gen) DYI Only
Autofill information (Oncall: messenger_lead_	
Autofill information (Oncall: messenger_lead_ Support Messages (Oncall: customer_suppor Interactions you've had with Facebook support	t_async) DYI Only
Support Messages (Oncall: customer_support	Lasync) DYI Only
Support Messages (Oncall: customer_support Interactions you've had with Facebook support  Secret groups (Oncall: whatsapp_user_infra)	DYI Only
Support Messages (Oncall: customer_suppor Interactions you've had with Facebook support  Secret groups (Oncall: whatsapp_user_infra) Secret conversation groups you're a member of  Pages  Your Pages, Pages you've liked or recommended, Pages you've unfollowed	DYI Only
Support Messages (Oncall: customer_suppor Interactions you've had with Facebook support  Secret groups (Oncall: whatsapp_user_infra) Secret conversation groups you're a member of  Pages Your Pages, Pages you've liked or recommended, Pagend Pages you've unfollowed  Your Pages (Oncall: profile_plus) Pages you are the admin of	DYI Only



Status

Generate

Schema

Stuck Jobs

Switchboard

Ownership

Pages you follow (Oncall: pages\_core\_infra) DYI Only Pages you've unfollowed (Oncall: profile\_following) DYI Only Facebook payments A history of payments you've made through Facebook Payment history (Oncall: facebook\_pay\_hub) A history of payments you've made through Facebook Payment accounts (Oncall: billing\_interfaces) DYI Only Payment accounts that you control Your Places A ist of places you've created Places you've created (Oncall: pages\_admin\_editing) Names of the places you've created, their locations, and the time and date you created them **Podcasts** Podcasts you've subscribed to Podcast subscriptions (Oncall: podcast\_oncall) Podcasts you've subscribed to Polls Polls you've created and participated in Polls you voted on (Oncall: group\_polls) Polls you've participated in **Posts** Posts you've shared on Facebook, posts that are hidden from your timeline and polls you have created Your posts (Oncall: posts\_infra) Photos, videos, text and status updates you've shared on Facebook Other people's posts to your timeline (Oncall: posts\_infra) Posts other people have shared on your timeline Your photos (Oncall: photos) Photos you've uploaded and shared Photos and videos you're tagged in (Oncall: posts\_infra) Photos and videos you've been tagged in Photo effects (Oncall: media\_effects\_platform) DYI Only A ist of the photo effects you've used Photos posted to other walls (Oncall: photos) DYI Only Your videos (Oncall: videos\_pubx) Videos you've uploaded and shared Videos sent to you (Oncall: videos\_pubx) DYI Only Videos you're tagged in (Oncall: posts\_infra) DYI Only Offers (Oncall: apac\_nbu\_growth) DYI Only News articles you've opened (Oncall: feed\_quality) News articles you've opened on Facebook in the last 30 days

Items sold (Oncall: marketplace\_seller\_success)

DYI Only



Status

Generate

Schema

Stuck Jobs

Switchboard

Ownership

Archive (Oncall: content\_control)

Items in your archive

Trash (Oncall: content\_control)

Items currently in trash

Posts Tagged by Others. (Oncall: content\_control) DYI Only

Photos Tagged by Others. (Oncall: content\_control) DYI Only

Your uncategorized photos (Oncall: photos)

Other photos you may have uploaded or shared

DYI Only

#### Reviews

Reviews you added about businesses and items

Reviews (Oncall: commerce\_trust\_and\_signals)

Reviews you added about businesses and items

#### Your problem reports

Information you've provided to report a problem.

Your problem reports (Oncall: cf\_insights)

Information you've provided to report a problem.

DYI Only

#### Saved items and collections

A ist of the posts you've saved, and your activity within collections

Your saved items (Oncall: save\_oncall)

Posts, photos and videos you have saved

DYI Only

Collections (Oncall: save\_oncall)

Collections you've created of posts, photos and videos DYI Only you've saved, and collections you're a part of

Your local lists (Oncall: socal\_www)

Places and events you added to ists

DYI Only

Your Playlists (Oncall: pmv)

Play ists you've created and the playable media you've added to them.

### Shops questions & answers

Questions you asked about products being sold in Shops and your answers to questions asked about products being sold in Shops

### Questions & Answers (Oncall: shops\_qa)

Questions you asked about products being sold in Shops and your answers to questions asked about products being sold in Shops

#### Shops

Information about products in your page's shop

Produc (Oncall:

connected\_commerce\_fb\_shops\_seller\_succes ts

DYI Only

List of products added to your page's shop

#### Soundbites

Soundbites you've created and shared

Your soundbites (Oncall: soundbites)

Soundbites you've created and shared

Spark AR related info such as effects you manage and effects you liked.

Effects you've liked (Oncall: creator\_success\_www)

A ist of effects you've liked on Spark AR Hub

DYI Only



Status

Generate

Schema

Stuck Jobs

Switchboard

Ownership

AR Effects (Oncall: ar\_publishing)
AR Effects you manage

Spark AR checklist (Oncall: ar\_hub\_activation\_insights) Your complete and incomplete checklist steps

#### Stories

Photos and videos you've shared to your story

Archived stories (Oncall: stories\_backend)

Story reactions (Oncall: stories\_backend)

Reactions you shared on your friends' stories or highlights

DYI Only

Highlights cover photos (Oncall: featured\_high ight)

Custom cover photos that you've uploaded to your story

DYI Only

Archived stories (Oncall: stories\_backend)

DYI Only

#### Volunteering

Your volunteering preferences and activity

Volunteering (Oncall: volunteering)

Your volunteering preferences and activity

Drives (Oncall: community\_help)

Your activity across Facebook

#### **Bug Bounty**

Your researcher data from the Bug Bounty program

Bug Bounty (Oncall: whitehat\_eng)

Your researcher data from the Bug Bounty program

## Workplace

Description for Workplace

Reported Content (Oncall: work\_integrity)

An archive of content that has been reported on Workplace

DYI Only

Other activity

Other information and activity from different areas of Facebook

Notes (Oncall: knowledge\_hub)

Notes you've created or have been tagged in

Pokes (Oncall: poke)

Pokes you've given and received

Challenges (Oncall: fb\_creators\_expressions\_experiences\_www)

Challenges you've participated in

Interactive videos (Oncall: gameshows)

Polls and game shows you've participated in and questions you've answered

Featured (Oncall:

pages\_consumer\_experience\_www)

DYI Only

A ist of likes highlighted on your Page

DYI Only

Badge settings (Oncall: apac\_nbu\_growth)

Rooms joined (Oncall: rp\_msngr\_php\_incall)

Current badge settings for your Page

DYI Only

Your Facebook Editor responses

crowdsourcing\_agreement)

(Oncall:

Questions you answered within Facebook Editor products



Status

Generate

Schema

Stuck Jobs

Switchboard

Ownership

Translations (Oncall: i18n\_core\_data)

Contributions to community translations

Translation achievements (Oncall: i18n\_core\_data)

Achievements in community translations

Your Audio Assets (Oncall: rights\_manager)

Audio you've uploaded

DYI Only

#### Personal information

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#### **Facebook Accounts Center**

Control settings for connected experiences such as logging in and sharing stories and posts across Messenger, the Facebook app and Instagram.

#### Accounts Center (Oncall: fx\_core\_infra)

Control settings for connected experiences such as logging in and sharing stories and posts across Messenger, the Facebook app and Instagram.

#### **Facebook Assistant**

Info associated with your Facebook Assistant, such as contact pronunciations and relationships

Your relationships (Oncall: assistant\_privacy\_integrity)

View and delete relationships you've set on Portal

Your Pronunciations (Oncall: assistant\_privacy\_integrity)

View and delete pronunciations of names

Reminders (Oncall: assistant\_privacy\_integrity)

View and delete reminders you've set

#### Facebook View

Information about your devices and preferences on Facebook View

Devices (Oncall: stella\_app)

The serial number for each pair of glasses and associated preferences.

DYI Only

Your voice interactions with (Oncall:

Ray-Ban Stories assistant\_privacy\_inte

grity)

DYI Only

Voice interactions on Assistant.

## **Health professional**

The information you provided to verify your status as a health professional

Your country (Oncall: preventive\_health)

Your selected country of residence and practice

Your profession type (Oncall: preventive\_health)

The profession you selected

Your email address (Oncall: preventive\_health)

Your professional email, or email associated with your institution

Your legal name (Oncall: preventive\_health)

Your legal name shown on official documentation

Your medical license number (Oncall: preventive\_health)

The medical icense number you provided

Your state of licensure (Oncall: preventive\_health)

The state that issued your icense

Your GMC number (Oncall: preventive\_health)



Status

Generate

Schema

Stuck Jobs

Switchboard

Ownership

Your unique seven-digit number as assigned by the GMC

#### Your website or CV (Oncall: preventive\_health)

The credentials you provided during the enrollment process

### Your medical specialty (Oncall: preventive\_health)

The field of expertise you selected

#### Your research domain (Oncall: preventive\_health)

The field of expertise you selected

#### **Horizon Worlds**

Info associated with Horizon Worlds, such as your avatar, and worlds you visited, liked, created and collaborated on.

#### Your Horizon Worlds Avatar (Oncall: horizon\_avatars)

Photos of your Horizon Worlds Avatar

#### Worlds visited (Oncall: horizon\_community)

Worlds you visited in Horizon Worlds

#### World hops Played (Oncall: horizon\_progression)

World Hops you played in Horizon Worlds

#### Liked worlds (Oncall: horizon\_community)

Worlds you liked in Horizon Worlds

#### Recently nearby people (Oncall: se\_people\_connections)

Suggestions based on your activities with others in Horizon Worlds

#### Worlds created (Oncall: horizon\_community)

List of worlds you created in Horizon Worlds

#### Worlds Collaborated On (Oncall: horizon\_community)

List of worlds you collaborated on in Horizon

#### World Progress (Oncall: horizon\_progression)

List of saved progress from worlds you've visited, including high scores, levels and more.

#### World Leaderboards (Oncall: horizon\_progression)

List of leaderboards from worlds you've visited and have an entry in.

#### Your Photos From Horizon Worlds (Oncall: horizon\_community)

Photos you have taken in Horizon Worlds

#### Your Posts From Horizon Worlds (Oncall: horizon\_community)

Posts you have created in Horizon Worlds

#### Horizon Worlds Goals (Oncall: horizon\_community)

Your goals in Horizon Worlds

#### Your Primary Connected Page For Horizon Worlds

(Oncall:

horizon\_community)

Posts you have created in Horizon Worlds

#### Saved Worlds (Oncall: horizon\_community)

Worlds you saved in Horizon Worlds

## Journalist registration

The information you provided to verify your status as a journa ist

### Your industry role (Oncall: news\_credibi ity)

Your roles within the news industry you selected during the registration process

## Your professional email (Oncall: news\_credibility)

The email address you provided during the registration process

## Your bylines (Oncall: news\_credibility)

Your inks to the news stories that list you as an author or contributor



Status

Generate

Schema

Stuck Jobs

Switchboard

Ownership

Staff directory (Oncall: news\_credibi ity)

The link to your news organization's staff directory

Additional benefits (Oncall: news\_credibility)

Your blue badge verification status and linked Instagram account for safety and protections

#### Neighborhoods

Neighborhoods you belong to, Neighborhoods profile data, and your posts and comments within the neighborhoods you belong to

Your Neighborhoods profile (Oncall: loco\_www)

Any favorite places, interests and neighborhood you've added to your Neighborhoods profile

Neighborhoods activity (Oncall: loco\_www)

Neighborhoods posts, comments, and reactions

Your Neighborhoods moderator activity (Oncall: loco\_www)

Any posts you've hidden or dismissed as a moderator

#### Other personal information

Other information you've provided

Your address books (Oncall: growth\_contacts)

Contact information you've added for friends and other people

Avatars (Oncall: avatar\_content)

Access your Facebook Avatar

Your reward cards (Oncall: merchant\_loyalty)

Reward cards you own

## Facebook Portal

Info associated with your Portal, such as favorites and photos on Superframe

Your Portals (Oncall: portal\_dyi\_ayi)

Info associated with your Portal, such as favorites and photos on Superframe

Your Portal albums (Oncall: portal\_discovery)

Albums created for your Portal

Your Portal voice (Oncall:

interactions assistant\_privacy\_integrity) DYI Only

Voice interactions from your Portal

#### **Profile information**

Your contact information, information in your profile's About section, your ife events, hobbies and music

Autofill information (Oncall: offsite\_and\_offline\_payments\_c ient)

The addresses, phone numbers and email addresses you've added to the Facebook Mobile Browser for automatically completing forms

Profile information (Oncall: profile\_web)

Your name, birth date, work and education information DYI Only and places you've ived that you've added to your profile

Page profile (Oncall:

information pages\_admin\_editing)

DYI Only Your Page's name, website address, categories, contact

info, location info and Page admins

Profile update history (Oncall: profile\_web) DYI Only

Your Music (Oncall: profile\_web)

Songs you've added to your profile

Your Hobbies (Oncall: profile\_web)



Status

Generate

Schema

Stuck Jobs

Switchboard

Ownership

Basic profile (Oncall: work_profile_field	ds)	DYI Only
HR profile (Oncall: work_profile_fields)		DYI Only
Jobs (Oncall: job_search) Information about job openings listed or	ı your Page	DYI Only
Services (Oncall: fb_appointments) Information about the services listed on	your Page.	DYI Only
nds and followers		1
riends and followers our friends on Facebook, friend requests, ee less, people you follow, and people who		ore and
Friends (Oncall: growth_friending) People you are currently connected to		
Friend requests sent (Oncall: growth Requests sent to others to ask them to b		book
Friend requests received (Oncall: gr Requests from others asking you to be f		ık
Demond finds (Oncolly second fin		
Removed friends (Oncall: growth_friends) People who you are no longer connected.		k
	d with on Facebook	
Who you follow (Oncall: pages_core_i People, organizations, or businesses tha	d with on Facebook infra) t you choose to se	
Who you follow (Oncall: pages_core_i People, organizations, or businesses tha or posts from  People who follow you (Oncall: profit	d with on Facebook infra) It you choose to se le_following)	
People who you are no longer connected  Who you follow (Oncall: pages_core_i People, organizations, or businesses that or posts from  People who follow you (Oncall: profile People who follow you  Friends You See Less (Oncall: profile Friends whose activity you've chosen to Facebook  Friends who rejected your (Oncall: profile Control of the pr	d with on Facebook infra) it you choose to se le_following) e_web) see less of on incall: byth_friending)	DYI Only
People who you are no longer connected  Who you follow (Oncall: pages_core_i People, organizations, or businesses that or posts from  People who follow you (Oncall: profile People who follow you  Friends You See Less (Oncall: profile Friends whose activity you've chosen to Facebook  Friends who rejected your friend request  Grant Connected  Gra	d with on Facebook infra) it you choose to se le_following)  e_web) see less of on incall: bwth_friending) riend request irowth_friending)	ee content

## Logged information

## Activity messages

A history of your interactions messages on Facebook

General (Oncall: goodwill\_mc)

Messages about your activity you've received from Facebook, including number of Friends or posts with the most reactions

DYI Only

DYI Only

13

Events Interactions (Oncall: events)

The number of times you've recently visited the Events DYI Only section of Facebook

**Group Interactions** (Oncall: groups\_platform)

The number of times you've interacted with Groups on



Status

Generate

Schema

Stuck Jobs

Switchboard

Ownership

Facebook

## People and Friends (Oncall: profile\_web)

People and friends you've interacted with, including DYI Only comments and reactions

#### **Bonuses**

Information about bonus opportunities you've participated in

Bonus opportunities

(Oncall:

you've started creator\_incentive\_platfor

m)

DYI Only

Information about bonus opportunities you've begun

#### Location

Information related to your location

## Location history (Oncall: dac\_h\_view\_data\_model)

A history of precise locations received through your devices

## Primary location (Oncall: home\_prediction)

Your primary location

Location Services Setting (Oncall: ursa\_mobile) DYI Only

Location history enabled setting (Oncall: Ih\_products)

DYI Only

#### Primary public location (Oncall: home\_prediction)

Your primary location based on your public information DYI and activity on Facebook

DYI Only

#### Last Location (Oncall: current\_location)

Your most recent location determined by your device

DYI Only

## Device Location (Oncall: home\_prediction)

The service provider and country code associated with your device

DYI Only

#### Timezon (Oncall:

growth\_registration\_confirmation\_accounts)

DYI Only

Your timezone as determined by the devices you're using to access Facebook

#### Other logged information

Other information that Facebook logs about your activity

#### Friend peer group (Oncall: core\_dimensions\_api)

Life stage description of your friends on Facebook

## Ads interests (Oncall: ad\_preferences)

Your interests based on your Facebook activity and other actions that help us show you relevant ads

#### Music recommendations

Song recommendations on Facebook based on genres of music you've interacted with.

## Music genres (Oncall: mpx)

Music genres you've interacted with on Facebook

DYI Only

## **Facebook News**

Information about your activity and preferences for Facebook News

### Your topics (Oncall: news\_compass\_product)

Topics you chose to see more of on Facebook News.

DYI Only

DYI Only

#### See less topics (Oncall: news\_compass\_product)

Topics you chose to see less of on Facebook News.

rimary

Your locations (Oncall: news\_compass\_product)

Locations you see local news from based on your primary

Status

Generate

Schema

Stuck Jobs

Switchboard

Ownership

location and individual selections

Articles viewed (Oncall: news\_compass\_product)

A ist of links you opened from News

DYI Only

Time spent (Oncall: feed\_data\_poseidon)

Amount of time you've spent on News

DYI Only

See less like this (Oncall: news\_compass\_product)

You chose to see fewer news items like these in Facebook News

See more like this (Oncall: news\_compass\_product)

You chose to see more news items like these in Facebook News

#### **Notifications**

A history of your notifications on Facebook

Notifications (Oncall: onsite\_notifications)

DYI Only

#### Observed data

Data we have observed about you from your Facebook activity

Things you have seen on (Oncall:

Facebook task\_triage\_videos)

Things you have viewed on facebook like profiles, pages,

DYI Only

DYI Only

videos, events, etc.

Actions you have taken on (Oncall:

Facebook task\_triage\_videos) DYI Only

Actions we have observed you performing on Facebook

Metadata on your facebook (Oncall:

usage task\_triage\_videos)

Things that we have observed from your Facebook usage

## Privacy checkup

When you last started and finished a Privacy Checkup topic

Interactions (Oncall: privacy\_checkup)

When you last started and finished a Privacy Checkup topic

Reminders (Oncall: privacy\_checkup)

When you set up reminders and how often you've chosen to get them

#### Your topics

A collection of topics determined by your activity on Facebook that is used to create recommendations for you in different areas of Facebook such as News Feed, News and Watch

Your topics (Oncall: central\_interest\_graph)

A collection of topics determined by your activity on Facebook that is used to create recommendations for you in different areas of Facebook such as News Feed, News and Watch

Topics you follow (Oncall: central\_interest\_graph)

Topics you have chosen to follow on Facebook

DYI Only

Topics you see less (Oncall: central\_interest\_graph)

Topics you have chosen to see less on Facebook

DYI Only

## Search

A history of your searches on Facebook

Your search history (Oncall: search\_product)

Words, phrases and names you've searched for

Videos you've searched for (Oncall: search\_product)

Videos you've searched for

Voice search history (Oncall: assistant\_privacy\_integrity)

A history of your voice search recordings and transcriptions on



Status

Generate

Schema

Stuck Jobs

Switchboard

Ownership

Facebook

#### Sharing Alerts

A history of the alerts you saw when sharing news articles with other users on Facebook without opening the article first

#### Sharing alerts (Oncall: feed\_quality)

A history of the alerts you saw when sharing news articles with other users on Facebook without opening the article first

DYI Only

#### Your interactions on Facebook

A history of your interactions on Facebook

#### Recently Viewed (Oncall: task\_triage\_videos)

Items you've recently viewed on Facebook including articles, groups, Stories, Marketplace items, Live videos and more

DYI Only

#### Recently Visited (Oncall: pymk\_primary)

Areas of Facebook you've recently visited including people's profiles, Pages, groups and events

DYI Only

#### Survey responses (Oncall: bi\_ace)

Surveys you've completed about purchase experiences with businesses on Facebook.

DYI Only

#### Security and login information

#### Security and login information

Technical information and logged activity related to your account

Your Facebook Activity (Oncall:

History metrics\_platform\_time\_spen

DYI Only

A history of when you've accessed Facebook

## Where You're Logged In (Oncall: account\_security\_controls)

Periods of time you've been actively logged into Facebook

## Authorized Logins (Oncall: account\_security\_controls)

The computers and mobile phones you've saved to your Facebook account

Logins and

compromised\_accounts\_detection\_and\_measurem Logouts

ent infra)

A history of your logins and logouts on Facebook

Login (Oncall:

protection compromised\_accounts\_detection\_and\_

data measurement\_infra) DYI Only

## Account status changes (Oncall: cadm\_infra)

DYI Only

Account

compromised\_accounts\_detection\_and\_me activity

asurement\_infra)

DYI Only

## Record details (Oncall: integrity\_actions)

Details included in some administrative records

DYI Only

IP address (Oncall:

activity compromised\_accounts\_detection\_and\_m

easurement\_infra)

DYI Only

Your recent activity from specific IP addresses

## Browser cookies (Oncall: cadm\_infra)

Information from your browser cookies

DYI Only



Status

Generate

Schema

Stuck Jobs

Switchboard

Ownership

Email address (Oncall:
verifications growth\_contacts)
A history of when you've verified your email address

Mobile devices (Oncall: app\_ads\_device\_registry)
A ist of mobile devices you used to log in

DYI Only

Wi-Fi networks (Oncall: fbc\_permanet)

Wi-Fi networks you set up on your mobile device through Facebook

### Apps and websites off of Facebook

#### Apps and websites off of Facebook

Apps you own and activity we receive from apps and websites off of Facebook

#### Posts from apps and websites (Oncall: platform\_api)

Posts from the apps you've given permission to post on your behalf

Your apps (Oncall: platform\_dev\_management)

Apps you're the admin of

## Your Off-Facebook Activity (Oncall: data\_access\_and\_control)

Your activity from the businesses and organizations you visit off of Facebook

#### Apps and websites (Oncall: platform\_login)

Apps and websites you've connected to your Facebook account

#### Your news subscriptions (Oncall: news\_publisher\_value\_backend)

News accounts that you can use to browse and read news articles on Facebook

#### Preferences 3

#### Facebook settings

Your settings for things like privacy and language, and Pages templates and tabs information for any Pages you have

Settings (Oncall: privacy\_control\_infra)

Your settings	3	Dirolly
Page	(Oncall:	
settings	pages_consumer_experience_www)	DYI Only
Current setti	ngs for your Page	
Current ten	nplate (Oncall: pages_core_infra)	
Information	about the template currently active on your	DYI Only
nage		

Tabs (Oncall: pages\_consumer\_experience\_www)

Information about the tabs currently active in your page

DYI Only

DVI Only

## **News Feed**

Actions you've taken to customize your News Feed

#### News Feed (Oncall: profile\_web)

Profiles and Pages you've chosen to see more or less of in your News Feed

DYI Only

Interests (Oncall: soap\_onboarding\_and\_feed)
Interests you've prioritized in your News Feed

### Preferences

Actions you've taken to customize your experience on Facebook

Face recognition (Oncall: facer\_data)



Status

Generate

Schema

Stuck Jobs

Switchboard

Ownership

Your face recognition settings allow you to choose if you want Facebook to be able to recognize you in photos and videos.

Language and Locale (Oncall: internationalization) DYI Only

Live Video (Oncall:

Subscriptions live\_video\_platform) DYI Only

Scheduled Live videos you've subscribed to

Facebook Watch (Oncall: watch\_server\_foundation)

Videos on Facebook Watch you've chosen to see more or less of

#### Ads information

2

#### Ads information

Your interactions with ads and advertisers on Facebook

Payment history (Oncall: b2b\_core)

All previous payments made on the ads payment DYI Only

account.

Ads account settings (Oncall: ads\_prod\_infra)

Ads account settings

DYI Only

Ads account user roles (Oncall: ads\_prod\_infra)

Va id users for this ad account and their roles.

DYI Only

#### Ads information

Your interactions with ads and advertisers on Facebook

# Advertisers who uploaded a contact list with (Oncall: your information ad\_preferences)

Advertisers who run ads using a contact list they uploaded that includes contact info you shared with them or with one of their data partners

#### Advertisers using your activity or information

(Oncall:

ad\_preferences)

Advertisers can choose to show their ads to certain audiences. You may see ads because an advertiser has included you in an audience based on a list of information or your interactions with their website, app or store. Advertisers can use or upload a list of information that we can match to your profile.

#### Information you've submitted to (Oncall:

advertisers

ad\_preferences)

DYI Only

Information you've given to advertisers using a form

they've provided on Facebook

Advertisers you've interacted (Oncall:

duvertisers you've interacted (Oncome

with ads\_ranking\_features)

Advertisers whose ads you've clicked on Facebook

## Ad groups (Oncall: ads\_api)

Ad group information, statistics, and ad versions.

DYI Only

Edit Page

# **Eng Guide - Adding to DYI**

If you need to add to DYI, AYI and Activity Log see the Eng Guide - Adding To YFI (DYI, AYI, Activity Log) for a complete view.

**WARNING:** Speak to Privacy XFN before adding data to DYI. You'll need to provide your Privacy XFN decision task in all diffs.

Before you start Eng implementation make sure you have reviewed the Additions Process.

**IMPORTANT:** Go through the diff checklist to make sure you've got all elements required for your addition.

YEA!! You're adding data to DYI. You're ensuring users have access to their data and helping to keep Meta compliant with GDPR, CCPA and other privacy regulations.

# Step 1: Determining Where your Data Should Live in the Data Taxonomy [Always Needed]

Your actual data will be pulled in a DYI field. These fields are grouped together into logical groupings represented by the DYI Schemas. Normally you do not need to add a new DYI Schema.

To determine where your data should live:

- 1. Go to www.facebook.com/dyi, and figure out which category (e.g. Posts, Friends, etc.) your data might fit in. If none of these look reasonable, you may need to add a new grouping.
- 2. Put together a proposal for where you think your data would fit in the DYI and AYI/Activity Log Additions XFN group. Be sure to follow the direction on the pinned post.
- 3. Once you have approval from Misti Pinter on the proposal (and have visited her office hours), you'll be ready to start coding!

# Step 2: Add a new Logical Data Grouping if Needed [Usually not needed]

WARNING: In most of the cases, you don't need this.

Each Logical grouping cooresponds to an entry in the DYIDataType enum and a DYISchema class.

- 1. Add a new entry for the DYIDataType enum that represents your new data grouping. Please follow comments to keep numberings logical.
- 2. Create a new class that overrides DYIDataSectionSchema in the folder flib/support/dyi/schema. You can copy paste an existing file there and fixup all the functions to return the right things; most of the functions are pretty self-explanatory. We will describe how to fill in the getFields function in the next sections.

# Step 3: Adding Data 026 DW (A Dways Needled) Filed 02/08/23 Page 31 of 90

Now that your data type exists, you need to add your data to it. There are currently two different ways to integrate your data to DYI. You can leverage an existing (and landed) Activity Log integration, or you can do a custom integration.

If your data should appear in Activity Log then you should continue Step 3 Option 1: Adding data from Activity Log.

If not, continue with Step 3 Option 2: Adding data from a Custom Fetcher.

## Step 3 Option 1: Adding Data from Activity Log

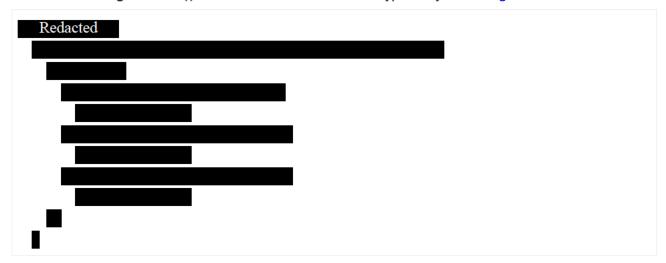
Before you can do this, you need to get your data to appear in Activity Log first. If you have not done so yet, please follow this guide. Your Activity Log integration needs to be landed before you can use it in DYI.



this should @eastata: a Releval robated 3et/cher file of only orandiata by be 1.8 your local to by heat 23 Page 32 of 90

DYIDataType::POSTS\_YOUR\_ACTIVITY then the fetcher file should be DYIPostsYourActivityDataFetcher.php. If all fields added were pulled from activity log, this file should be automatically populated through the codegen.

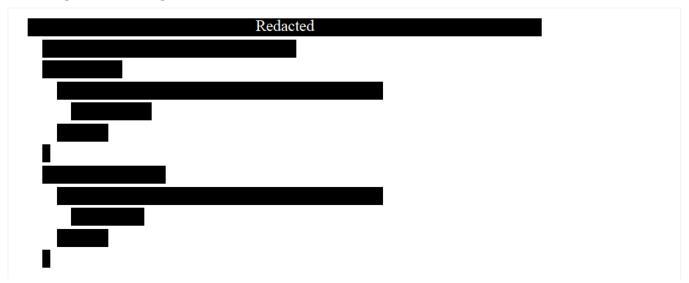




use your new custom structure in the original data schema file.



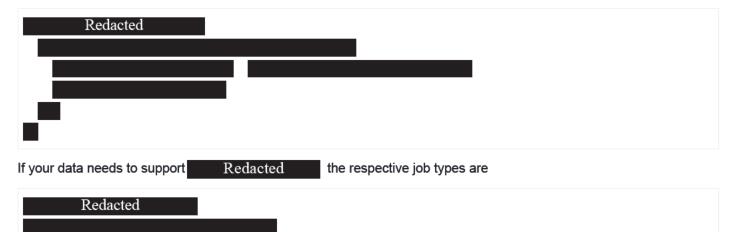
For large data results (possible to have more than 5K results) you will need to add checkpointing to your configuration. To add in the ability to cursor over your data query, you need to enable checkpointed fetching with setCheckpointedFetching. It takes a vector of DYICheckpointSchema. You can define any type of cursor, but string is the most common since that's what EntQuery cursor types are. An example configuration is in saves\_and\_collections\_v2. For the most common configuration, provide a name for the checkpoint, and the type of checkpoint. Each checkoint added will create a separate Fetcher query method to implement. A configuration including this would be like



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4
In general, this API is somewhat similar to EntSchema.  2. Run the following:
3. Add in the data fetching code (for each fetcher method generated if using multiple checkpoints). The generated
code is stubbed to return null so hh will not fail, but it needs you to write code to actually return the data. If your
data type is Redacted  . There will be newly stubbed method to fill out. A relatively
straightfoward diff example is D33035672. Your fetching code should do the following:
<ul> <li>Query the appropriate data owned by the user (target/prospectiveVC)</li> </ul>
Constrain data by time (if time is associated with the data, it usually is)
Populate the data structure (string, vec, structure) you configured in the DYISchemaField.
If your data is checkpointed you will need to also account for creating a cursor.  4. Add in the custom rendering code. The generated code is stubbed to return a json dump of your return structure
into an html file. It's not cute. So we need to make it pretty. If your data type is
Redacted then the file that contains an area to add your rendering should be
Redacted . In this file You should ensure that the structure is rendered nicely with xhp
elements by implementing the genCustomHTML method associated with your new field. There are some example xhp elements used for this in www/flib/support/dyi/page/xhp/object/.
Step 4: Addressing Data Visibilty and Job Types [Always Needed]
Each schema for a corresponding DYIDataType and each schema field can set custom visibility rules. Schemas can do
so by overriding the Redacted . Schema fields can use Redacted . The
visibilty rules are nested, rules that are applied at the data type level will apply to all fields belonging to that data type.
Note: Every Schema must specify which job types (maps to profile types) to allow. For information on which job
types are related to which profile types please see the FAQ section on what profile types match which job types.
•



schema field (field visibilty)



make sure your data fetchers work for these job types by testing with these account types

Additional visibility rules can be added to provide further gating if needed (GKs, platforms, specific product users). See the visibility folder for supported types.

# Step 5: Testing [Always Needed]

Now that you've specified the data type and filled in the fetcher code. You should test your additions by requesting a DYI job. You can **ONLY** do this directly from the terminal with Redacted You will *NOT* be able to test this through the facebook.com/dyi product UI as the jobs created through this interface will be using the prod environment.

For examples of test script commands for various types of jobs see the FAQ section on how do I test

To run a basic test for the standard user type with the DYI test user run the script with:



You should probably do this as fetching all your data can take quite a long time.

Your diff will need screenshots for each different profile type allowed in your configuration.

## Step 6: Adding Regression Test Data [Almost Alivays/Needed]ge 36 of 90

If your data is associated with a regular user (and more types coming soon) and does not have a short TTL you need to ensure that the regression tests we have setup will work for your new data.

If your data has a TTL, you will need to specify this using the Redacted on your field definition. Otherwise your diff will not be approved unless you generate the regression data for the Redacted . Information on how to log in to the test account and update the regression tests (aka snapshot tests) see the Adding Snapshot Tests section

Your diff will need to include the json data for the test user in www/flib/support/dyi/ tests / snapshots v2

# Step 7: Possibly Bumping DYI Version Number [Sometimes Needed]

If the underlying thrift schemas generated are not backward compatibable you will need to bump the dyi version number. We try to avoid this because it causes all inflight jobs to start over. But sometimes it's needed.

If you add a new schema, delete a field or modify field order, this is more likly to be needed. If you add a new field to the end of a list of existing fields in a DYISchema, you should not need to do this step.

To determine if you need to bump the version number view the DYICodegen.thrift file changes in your diff. If any line has red (other than the signature line) then your change is not push safe. You will need to run the following command

phps DYIBumpVersionNumber

# Step 8: Submitting your Diff [Always Needed]

Submit your diff and include 'dyi' as one of the reviewers.

WARNING: Do not land a new data addition with out a review from dyi team member

We're working to make these diffs not require dyi as a reviewer, but we're not all the way there yet and we are trying to avoid changes that break DYI

# Some tips

- Your content (everything you put in an fbt) should be reviewed by a content strategist and fully translated (we support 50+ languages) before you ship this to the public.
- You can add DYIVisibilityGKRule or DYIVisibilityAllowInternalOnlyJobsRule to the fields of your new
  data (or in Redacted for the new data category you created) to restrict the visibility of your new data
  until you're ready to ship it.
- When testing you may have to self grant permission to production data here: https://www.internalfb.com/intern/core\_data\_access. Errors may look like P317501522
- If you have any doubts, please contact the dyi\_infra or post in the Q and A group and get some guidance there.
- You can use DYIStoryInspector (https://fburl.com/qbpt2sc7) to debug your activity log data

« Download Your Information (DYI) Eng Guide - Ongoing Ownership Responsibilities »

## **EXHIBIT B**

## **Privacy Team Paper for Global Policy Offsite**

## **Ads and Measurement** (Rob Sherman)

What kinds of information does Facebook receive about people?

NATIVE DATA	Facebook website, apps, and branded	Explicitly collect
	products (ex., Facebook Wifi)	Profile info
		o Email address
,		O Phone number
		o Address
		<ul> <li>Posts, likes, shares</li> </ul>
		<ul> <li>Life events</li> </ul>
Hashad data		<ul> <li>Social connections</li> </ul>
Hashed data matching		<ul> <li>Info shared by other users</li> </ul>
		Location (checkins)
		Implicitly collect
		<ul> <li>Location (device GPS, wifi, IP address)</li> </ul>
		Phone number
		Carrier
		Device type
		Device identifiers (UDID / Android ID, IDFA /
		Google Ad ID)
		Infer from engagement on the site
282		<ul> <li>Interests, behaviors</li> </ul>
APPENDED	Data brokers (partner categories)	Public records
DATA		Auto registration data
		Supermarket loyalty cards
		<ul> <li>Retail purchases (ex., Walmart)</li> </ul>
		<ul> <li>Credit card purchases (Argus)</li> </ul>
	Advertisers (custom audiences, offline	Existing customer relationships
	conversion measurement)	Purchase history
	Both (managed custom audiences, offline	Customized third-party data (usually opaque)
	conversion measurement)	to Facebook)
		<ul> <li>"Enhanced" customer databases</li> </ul>
BEHAVIORAL	Web pixels (conversion pixel, website	Website browsing behavior
Dата	custom audiences)	<ul> <li>Conversions (ex., purchases) off FB</li> </ul>
	Web SDK (like button, FB Login)	Website browsing behavior
		Explicit actions (likes, logins) off FB
	Mobile SDK (app integrations, app installs,	Mobile apps installed
	app events, autofill/payments)	Explicit actions (likes, logins) off FB
	app events, autojini paymentsi	Activity within apps
	Onavo	Conversions (ex., purchases) off FB  Ont in panels all devices naturally activity.
	Onavo	Opt-in panel: all device network activity

Appended Data defined as follows: (1) Data brokers (partner categories): public records, auto registration data, supermarket loyalty cards, retail purchases (e.g., Walmart), credit card purchases (Argus); (2) Advertisers (custom audiences, offline conversion measurement): Existing customer relationships, purchase history); and (3) Both (managed custom audiences, offline conversion measurement): Customized third-party data (usually opaque to FB).

Included in DYI/Deprecated. For (1), "partner categories" were deprecated in 2018. For (2) and (3), information about custom audiences, managed custom audiences, and ad interactions/pixel data for offline conversion measurement is included in DYI.

Behavioral Data defined as follows: (1) Web pixels (conversion pixel, website custom audiences). Includes website browsing behavior, explicit actions (likes, logins) off FB; (2) Web SDK (like button, FB login) Includes website browsing behavior, explicit actions (likes, logins) off FB; (3) Mobile SDK (app integrations, app installs, app events, autofill/payments) Includes mobile apps installed, explicit actions (likes, logins) off FB; and (4) Onavo. Includes opt-in panel: all device network activity.

Included in DYI/Deprecated. For (1), (2), and (3), this information is included in the DYI file. We note that the reference to "autofill/payments" is unclear, so we are unable to confirm whether it is in DYI. For (4), Onavo was deprecated in early 2019 and any associated data would either have been largely duplicative of app event data received through the mobile SDK or was not associated with particular users.

**FBX**. FB establishes a match table between a FB user and a 3P ad server's cookie. This enables the 3P to show ads on FB to users that have visited websites where the 3P has placed one or their cookies on the user's browser. The cookie sync is triggered by the 3P (it calls a FB endpoint) and is matched against FB's FR cookie.

**Deprecated**. FBX was deprecated in 2016.

Custom audiences: We allow advertisers to upload lists of their customers to have ads shown to them on FB. We create custom audiences today based on email addresses, phone numbers, FB user IDs, and Apple iOS IDFAs. We also allow mobile app developers to create custom audiences based on information that they have provided to FB via the FB mobile SDKs.

Included in DYI. See above.

FB Mobile SDKs. Developers can choose to send information about how their users interact with their apps to FB. Developers can set up "custom app events" within their app using the FB Mobile SDKs. When a user does a pre-defined action, developers can have the FB SDK send each activity to FB. We log that information to court app installs and aggregate them for app analytics. By default, the SDK is set to report installs only (though the developer can turn this off). Tracking is done with Apple's IDFA or with FB's SDK attribution ID on Android.	Included in DYI. See above.
Conversion tracking. Websites can implement a FB pixel that is triggered when users land on specific pages. The pixel sends information from the user's FR cookie to FB and we attribute the conversion with a specific ad.	Included in DYI. Ad interactions/pixel data included in DYI.
Website custom audiences. Websites can implement a FB pixel (different from conversion tracking) that is triggered when users land on specific pages. The pixel sends information from the user's FR cookie to FB. FB resolves that info back to a specific user and FB places that user into a custom audience for that advertiser. Users can optout of this process through a cookie-based opt-out accessible from the Ads privacy settings page on FB.	Included in DYI. See above.
Partner categories. FB partners with select data partners and allows that to create custom audiences based on their own data. These custom audiences (called "Partner Categories") are then available for use by any advertiser on FB. Data partners include DataLogix, Epsilon, Acxiom, and Experian. Users can opt-out of these categories through partner-specific opt-outs.	<b>Deprecated</b> . Partner categories were deprecated in 2018.

Offline measurement (via partners). FB works with DataLogix and Acxiom to help advertisers measure the effectiveness of their ads at driving in-store sales. FB provides partners with ad exposure data. Partners then use in-store sales data provided by retailers to the data partner to measure the sales lift from users that saw ads for the products being advertised.	No user-level data. Offline measurement via partners does not involve FB receiving user-level data.
Offline measurement (directly with FB). Similar to the previous offline measurement product, except without an intermediary partner. Advertisers (usually retailers) provide transaction data directly to FB and we generate the sales lift reports for the advertiser.	Included in DYI. See above.
<b>Argus</b> . FB uses Argus dataset on credit card transactions to build models on buying habits of certain types of users. We are currently not using this [in] any production systems.	<b>Does not exist</b> . Facebook terminated its testing of data provided by Argus in 2015.
Other data sets. FB occasionally acquires data sets to help inform different user models. For example, we get census data to determine which zip codes are high-income zip codes. We then imply that users in those zip codes are high-wealth users. In all cases, none of the datasets are user-level.	No user-level data. Census data is not associated with users, and therefore is not included in DYI. User zip codes are included in DYI.

## **EXHIBIT C**

Below is a summary of the DYI files produced for the current and former named plaintiffs in this case, that describes the categories of "discoverable user data" in each file identified by Judge Corley in Discovery Order No. 9: (1) data collected from a user's onplatform activity, (2) data obtained from third parties regarding a user's off-platform activities, and (3) data inferred from a user's on or off-platform activity. On (3), DYI includes data that, as a factual matter, makes use of a user's on or off-platform activity. Whether that data constitutes inferred data is a legal question on which we do not take a position for the purpose of trying to identify data in this category.

## **EXHIBIT D**

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